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     (FILE 'HOME' ENTERED AT 14:09:05 ON 02 JAN 2003)

     INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI,
     BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA,
     CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB,
     DDFU, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, ...' ENTERED AT 14:09:15 ON
     02 JAN 2003
               SEA ALPHA(W)1,6-FUCOSYLTRANSFERASE
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                1   FILE ANABSTR
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                1   FILE BIOCOMMERCE
               49   FILE BIOSIS
               25   FILE BIOTECHNO
                6   FILE CANCERLIT
               53   FILE CAPLUS
                1   FILE CEABA-VTB
                1   FILE CONFSCI
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               30   FILE EMBASE
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                4   FILE JICST-EPLUS
                4   FILE LIFESCI
               18   FILE MEDLINE
               39   FILE SCISEARCH
               16   FILE TOXCENTER
               12   FILE USPATFULL
                3   FILE WPIDS
                3   FILE WPINDEX
L1              QUE ALPHA(W) 1,6-FUCOSYLTRANSFERASE
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               SEA FUCOSYLTRANSFERASE
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                4   FILE ADISCTI
                1   FILE ADISNEWS
               50   FILE AGRICOLA
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             1360   FILE CAPLUS
               15   FILE CEABA-VTB
                2   FILE CEN
               49   FILE CONFSCI
               12   FILE DDFB
               21   FILE DDFU
              440   FILE DGENE
               12   FILE DRUGB
               25   FILE DRUGU
               10   FILE EMBAL
              989   FILE EMBASE
              533   FILE ESBIOBASE
               19   FILE FEDRIP
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                2   FILE FROSTI
                7   FILE FSTA
              918   FILE GENBANK
               75   FILE IFIPAT
              166   FILE JICST-EPLUS
              281   FILE LIFESCI
             1121   FILE MEDLINE
                1   FILE NIOSHTIC
                2   FILE NTIS
              325   FILE PASCAL
                1   FILE PHIN
                5   FILE PROMT
             1000   FILE SCISEARCH
              257   FILE TOXCENTER
              288   FILE USPATFULL
                2   FILE USPAT2
               67   FILE WPIDS
               67   FILE WPINDEX
L2               QUE FUCOSYLTRANSFERASE
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     FILE 'CAPLUS, BIOSIS, MEDLINE, SCISEARCH, EMBASE, BIOTECHNO, ESBIOBASE,
     CANCERLIT' ENTERED AT 14:13:29 ON 02 JAN 2003
L3            52 S L1 AND (PIG OR PORC?)
L4            43 S L3 AND (PURIF? OR CHARACT? OR ISOLAT?)
L5            11 DUP REM L4 (32 DUPLICATES REMOVED)

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=> d l5 ibib ab 1-11

L5 ANSWER 1 OF 11 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:307991 CAPLUS
DOCUMENT NUMBER: 135:286390
TITLE: Significance of .alpha.1-6 fucosylation in hepatocellular carcinoma
AUTHOR(S): Miyoshi, Eiji; Noda, Katsuhisa; Taniguchi, Naoyuki; Sasaki, Yutaka; Hayashi, Norio
CORPORATE SOURCE: Department of Biochemistry, Osaka University Graduate School of Medicine, Suita, 565-0871, Japan
SOURCE: Liver Cirrhosis (2001), 93-104. Editor(s): Okita, Kiwamu. Springer-Verlag Tokyo: Tokyo, Japan. CODEN: 69BFS7
DOCUMENT TYPE: Conference; General Review
LANGUAGE: English
AB A review, with 49 refs. .**alpha**.**1-6** **Fucosyltransferase** (.alpha.1-6FucT) catalyzes the transfer of fucose from GDP-Fuc to N-linked type complex glycoproteins. Recently, serum .alpha.1-6 fucosylated .alpha.-fetoprotein (AFP) has been employed for a differential diagnosis of hepatocellular carcinoma (HCC) from liver cirrhosis. To det. the mol. basis of the fucosylated AFP in the serum of patients with HCC, we have succeeded in the **purifn**. and cDNA cloning of .alpha.1-6FucT from **porcine** brain and a gastric cancer cell line, resp. Their homol. is 92.2% at the nucleotide level and 95.7% at the amino acid level. No putative N-glycosylation sites were found in the predicted amino acid sequence. .alpha.1-6FucT was widely expressed in various rat tissues except normal liver. Expression of .alpha.1-6FucT in the liver was enhanced during hepatocarcinogenesis of LEC rats, which develop hereditary hepatitis and hepatomas. In human liver diseases, .alpha.1-6FucT was expressed in both HCCs and their surrounding tissues with chronic liver disease, but not in normal liver. Although serum AFP has been employed for an early diagnosis of patients with HCC, the mechanisms by which .alpha.1-6 fucosylation of AFP occurs in HCC seem to be not solely due to the up-regulation of .alpha.1-6FucT. Interestingly, when the .alpha.1-6FucT gene was transfected into Hep3B, a human hepatoma cell line, tumor formation in the liver of nude mice after splenic injection was dramatically suppressed. The mechanisms of the suppression were due to decreases in cell adhesion through aberrant glycosylation of .alpha.5.beta.1 integrin. In this review, we focus on the biol. significance of .alpha.1-6 fucosylation in HCC.
REFERENCE COUNT: 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 2 OF 11 SCISEARCH COPYRIGHT 2003 ISI (R)
ACCESSION NUMBER: 2000:459176 SCISEARCH
THE GENUINE ARTICLE: 323NE
TITLE: High-mannose-type oligosaccharides from human placental arylsulfatase A are core fucosylated as confirmed by MALDI MS
AUTHOR: HojaLukowicz D (Reprint); Ciolczyk D; Bergquist J; Litynska A; Laidler P
CORPORATE SOURCE: JAGIELLONIAN UNIV, INST ZOOL, DEPT ANIM PHYSIOL, INGARDENA 6, PL-30060 KRAKOW, POLAND (Reprint); JAGIELLONIAN UNIV, COLL MEDICUM, INST MED BIOCHEM, PL-31034 KRAKOW, POLAND; UNIV GOTHENBURG, SAHLGRENS UNIV HOSP, INST CLIN NEUROSCI, DEPT PSYCHIAT & NEUROCHEM, S-41380 MOLNDAL, SWEDEN
COUNTRY OF AUTHOR: POLAND; SWEDEN
SOURCE: GLYCOBIOLOGY, (JUN 2000) Vol. 10, No. 6, pp. 551-557. Publisher: OXFORD UNIV PRESS, GREAT CLARENDON ST, OXFORD OX2 6DP, ENGLAND. ISSN: 0959-6658.
DOCUMENT TYPE: Article; Journal

FILE SEGMENT: LIFE
LANGUAGE: English
REFERENCE COUNT: 48
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Despite numerous studies on arylsulfatase A, the structure of its glycans is not well understood, It has been shown that the concentration of arylsulfatase A increases in the body fluids of patients with some forms of cancer, and the carbohydrate component of arylsulfatase A synthesized in tumor tissues and transformed cells undergoes increased sialylation, phosphorylation and sulfation. To understand the significance of any changes in the glycosylation of arylsulfatase A in cancer, it is important to know the structure of its carbohydrate component in normal tissue. In the present study we have analyzed carbohydrate moieties of human placental arylsylfatase A using sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE) followed by Western blotting on Immobilon P and on-blot deglycosylation using PNGase F for glycan release. Profiles of N-glycans were obtained by matrix-assisted laser desorption/ionization mass spectrometry (MALDI MS). Oligosaccharides were sequenced using specific exoglycosidases, and digestion products were analyzed by MALDI MS and the computer matching of the resulting masses with those derived from a sequence database. Fifty picomoles (6 mu g) of arylsulfatase A applied to the gel were sufficient to **characterize** its oligosaccharide content. The results indicated that human placental arylsulfatase A possesses only high-mannose-type oligosaccharides, of which almost half are core fucosylated. In addition, there was a minor species of high-mannose-type glycan bearing six mannose residues with a core fucose, This structure was not expected since high-mannose-type oligosaccharides basically have not been recognized as a substrate for the **alpha 1,6-fucosyltransferase**.

L5 ANSWER 3 OF 11 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 1
ACCESSION NUMBER: 2000:507631 CAPLUS
DOCUMENT NUMBER: 133:250111
TITLE: Occurrence of GDP-L-fucose:.beta.-N-acetylglucosamine (Fuc to Asn-linked GlcNAc) .**alpha.1,6-fucosyltransferases** in **porcine**, sheep, bovine, rabbit and chicken tissues
AUTHOR(S): Struppe, E.; Staudacher, E.
CORPORATE SOURCE: Institut fur Chemie, Universitat fur Bodenkultur, Vienna, A-1190, Austria
SOURCE: Biochimica et Biophysica Acta (2000), 1475(3), 360-368
CODEN: BBACAQ; ISSN: 0006-3002
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Transgenic animals are a promising source of pharmaceutically-relevant proteins or as a source of organs for xenotransplantation. Beside other posttranslational modifications, glycosylation has been shown to be a crit. parameter for the correct function of several glycoproteins. To analyze the contribution of .alpha.1,6-fucosylation to N-glycan variability, the authors partly **purified** .**alpha.1,6-fucosyltransferase** (.alpha.1,6-Fuc-T) activities from various tissues (brain, lung, heart, liver) of agriculturally-relevant animals (**porcine**, sheep, bovine, rabbit, chicken) and compared some of their biochem. properties. All tissues displayed .alpha.1,6-Fuc-T activity, although at different levels. No differences were obsd. in their stability against chems., temp. or time, whereas the activities were distinguishable by their pH-optima and their cation preferences. Similarities were found for tissues between species. Lung and heart enzymes showed a narrow pH-optimum around pH 6.0 and an enhanced activity in the presence of divalent cations. .alpha.1,6-Fuc-T activities in brain and liver were **characterized** by a broad pH-optimum from 5.5 to 8.0. Some activities of these tissues were

decreased by the addn. of EDTA, while others did not show any influence of EDTA or divalent cations. From the significant differences of the .alpha.1,6-Fuc-T activities in the tissues, it is possible to hypothesize the presence of more than one single .alpha.1,6-Fuc-T in mammalian tissues.

REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 4 OF 11 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 2

ACCESSION NUMBER: 1999:746555 CAPLUS
DOCUMENT NUMBER: 132:119026
TITLE: The .**alpha**.1-6-**fucosyltransferase** gene and its biological significance
AUTHOR(S): Miyoshi, E.; Noda, K.; Yamaguchi, Y.; Inoue, S.; Ikeda, Y.; Wang, W.; Ko, J. H.; Uozumi, N.; Li, W.; Taniguchi, N.
CORPORATE SOURCE: Department of Biochemistry, Osaka University Medical School, Suita, Osaka, Japan
SOURCE: Biochimica et Biophysica Acta (1999), 1473(1), 9-20
CODEN: BBACAQ; ISSN: 0006-3002
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

AB A review with 94 refs. GDP-L-fucose:N-acetyl-.beta.-D-glucosaminide .**alpha**.1-6-**fucosyltransferase** (.alpha.1-6FucT) catalyzes the transfer of fucose from GDP-fucose to N-linked type complex glycoproteins. This enzyme was **purified** from a human fibroblast cell line, **porcine** brain, a human gastric cancer cell line and human blood platelets. cDNA cloning of **porcine** and human .alpha.1-6FucT was performed from a **porcine** brain and gastric cancer cell cDNA libraries, resp. Their homol. is 92.2% at the nucleotide level and 95.7% at the amino acid level. No putative N-glycosylation sites were found in the predicted amino acid sequence. No homol. to other fucosyltransferases such as .alpha.1-2FucT, .alpha.1-3FucT and .alpha.1-4FucT was found except for a region consisting of nine amino acids. The .alpha.1-6FucT gene is located at chromosome 14q24.3, which is also a different location from other fucosyltransferases reported to date. The .alpha.1-6FucT gene is the oldest gene family in the phylogenic trees among the nine cloned fucosyltransferase genes. .alpha.1-6FucT is widely expressed in various rat tissues and the expression of .alpha.1-6FucT in the liver is enhanced during hepatocarcinogenesis of LEC rats which develop hereditary hepatitis and hepatomas. In cases of human liver diseases, .alpha.1-6FucT is expressed in both hepatoma tissues and their surrounding tissues with chronic liver disease, but not in the case of normal liver. Serum .alpha.1-6-fucosylated .alpha.-fetoprotein (AFP) has been employed for an early diagnosis of patients with hepatoma. The mechanisms by which .alpha.1-6 fucosylation of AFP occurs in the hepatoma is not due to the up-regulation of .alpha.1-6FucT alone. Interestingly, when the .alpha.1-6FucT gene is transfected into Hep3B, a human hepatoma cell line, tumor formation in the liver of nude mice after splenic injection is dramatically suppressed. This review focuses on .alpha.1-6FucT and summarizes its properties, gene expression and biol. significance.

REFERENCE COUNT: 94 THERE ARE 94 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 5 OF 11 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 3

ACCESSION NUMBER: 1998:680686 CAPLUS
DOCUMENT NUMBER: 130:79497
TITLE: Gene expression of .**alpha**.1-**6 fucosyltransferase** in human hepatoma tissues: a possible implication for increased fucosylation of .alpha.-fetoprotein

AUTHOR(S): Noda, Katsuhisa; Miyoshi, Eiji; Uozumi, Naofumi; Yanagidani, Shusaku; Ikeda, Yoshitaka; Gao, Cong-Xiao; Suzuki, Kunio; Yoshihara, Harumasa; Yoshikawa, Masumi; Kawano, Kiyoshi; Hayashi, Norio; Hori, Masatsugu; Taniguchi, Naoyuki

CORPORATE SOURCE: Department of Biochemistry, Osaka University Medical School, Osaka, 565-0871, Japan

SOURCE: Hepatology (Philadelphia) (1998), 28(4), 944-952
CODEN: HPTLD9; ISSN: 0270-9139

PUBLISHER: W. B. Saunders Co.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The .alpha.1-6 fucosylated .alpha.-fetoprotein (AFP) present in serum of patients with hepatocellular carcinoma (HCC) has been employed for the differential clin. diagnosis of HCC from chronic liver diseases. The mol. mechanism by which this alteration occurs, however, remains largely unknown. To address this issue, the authors previously **purified** GDP-L-Fuc:N-acetyl-.beta.-D-glucosaminide .**alpha.1-6 fucosyltransferase** (.alpha.1-6 FucT), an enzyme involved in the .alpha.1-6 fucosylation of N-glycans from **porcine** brain, as well as from a human gastric cancer cell line, and cloned their genes. In this study, levels of .alpha.1-6 FucT mRNA expression and the activity of this enzyme for 12 human HCC tissues were examd. and compared with that in surrounding tissues and normal livers. The mean for .alpha.1-6 FucT activity was 78 pmol/h/mg in normal control liver, 202 pmol/h/mg in adjacent uninvolved liver tissues (chronic hepatitis: 181 pmol/h/mg; liver cirrhosis: 233 pmol/h/mg), and 195 pmol/h/mg in HCC tissues. The mRNA expression of .alpha.1-6 FucT was also enhanced in proportion to enzymic activity except for a few cases, suggesting that .alpha.1-6 FucT expression is increased in chronic liver diseases, esp. liver cirrhosis. Transfection of .alpha.1-6 FucT gene into cultured rat hepatocytes markedly increased .alpha.1-6 FucT activity and led to an increase in lens culinaris agglutinin (LCA) binding proteins in both cell lysates and condition media. When the .alpha.1-6 FucT gene was transfected into a human HCC cell line, Hep3B, which originally showed low levels of .alpha.1-6 FucT expression, .alpha.1-6-fucosylated AFP was dramatically increased in the condition media. Collectively, these results suggest that the enhancement of .alpha.1-6 FucT expression increased the fucosylation of several proteins, including AFP, and that the level of .alpha.1-6-fucosylated AFP in patients with HCC was in part caused by up-regulation of the .alpha.1-6 FucT gene expression.

REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 6 OF 11 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 4

ACCESSION NUMBER: 1998:95524 CAPLUS

DOCUMENT NUMBER: 128:165712

TITLE: High expression of .**alpha.-1-6 fucosyltransferase** during rat hepatocarcinogenesis

AUTHOR(S): Noda, Katsuhisa; Mitoshi, Eiji; Uozumi, Naofumi; Gao, Cong-Xiao; Suzuki, Keiichiro; Hayashi, Norio; Hori, Masatsugu; Taniguchi, Naoyuki

CORPORATE SOURCE: Department of Biochemistry, Osaka University Medical School, Osaka, 565, Japan

SOURCE: International Journal of Cancer (1998), 75(3), 444-450
CODEN: IJCNAW; ISSN: 0020-7136

PUBLISHER: Wiley-Liss, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB .alpha.-1-6 Fucosylated .alpha.-fetoprotein (AFP) is known to be elevated in patients with primary hepatoma and has been suggested as being useful as an early indicator and predictor of the poor prognosis for hepatoma. Although GDP-L-fucosyl-N-acetyl-.beta.-D-glucosaminide .**alpha.**-

1-6 fucosyltransferase (.alpha.-1-6 FucT), is the key enzyme involved in .alpha.-1-6 fucosylation of AFP, when and how the expression of .alpha.-1-6 FucT is enhanced during hepatocarcinogenesis is unknown. Recently, we established a convenient assay method for this enzyme and were successful in the **purifn**. and cDNA cloning of .alpha.-1-6 FucT from human gastric cancer, as well as from **porcine** brain. In the present study, levels of .alpha.-1-6 FucT activity and mRNA expression have been detd. during hepatocarcinogenesis in LEC rats which spontaneously develop hereditary hepatitis and hepatoma. The fetal liver contained the highest enzymic activity, which tended to increase in inverse proportion to gestation. The enzymic activity was significantly increased in hepatoma tissues as compared with uninvolved adjacent tissues. Northern-blot anal. revealed high expression of .alpha.-1-6 FucT mRNA in hepatoma tissues, whereas the expression was fairly low in normal, hepatitis and uninvolved adjacent liver tissues. While the fetal liver had the highest enzymic activity, the expression of .alpha.-1-6 FucT mRNA was low, suggesting that another .alpha.-1-6 FucT is induced in fetal liver or that post-translational modification occurs. High expression of .alpha.-1-6 FucT was also obsd. in 3'-MeDAB-induced rat hepatomas and some rat hepatoma cell lines. .alpha.-1-6 FucT was strongly enhanced from an early stage of hepatocarcinogenesis and was maintained at a high level in rat hepatomas.

L5 ANSWER 7 OF 11 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 5
ACCESSION NUMBER: 1997:652209 CAPLUS
DOCUMENT NUMBER: 127:329624
TITLE: Expression of .**alpha**.1-6 **fucosyltransferase** in rat tissues and human cancer cell lines
AUTHOR(S): Miyoshi, Eiji; Uozumi, Naofumi; Noda, Katsuhisa; Hayashi, Norio; Hori, Masatsugu; Taniguchi, Naoyuki
CORPORATE SOURCE: Department of Biochemistry, Osaka University Medical School, Suita, 565, Japan
SOURCE: International Journal of Cancer (1997), 72(6), 1117-1121
CODEN: IJCNAW; ISSN: 0020-7136
PUBLISHER: Wiley-Liss
DOCUMENT TYPE: Journal
LANGUAGE: English
AB GDP-L-Fuc:N-acetyl-.beta.-D-glucosaminide .**alpha**.1-6 **fucosyltransferase** (.alpha.1-6FucT) catalyzed the transfer of a fucosyl residue from GDP-fucose to the asparagine-linkage GlcNAc residue of complex N-glycans via .alpha.1-6 linkage. These oligosaccharide structures are essential for the attachment of polysialic acid to the neural-cell-adhesion mol., and its levels are useful for the differential diagnosis of hepatocellular carcinomas with respect to the microheterogeneity of .alpha.-fetoprotein. The authors have been successful in the **purifn**. of cDNA cloning of .alpha.1-6FucT from **porcine** brain and from a human gastric-cancer cell line. In the present study, mRNA expression of .alpha.1-6FucT in various rat tissues and human cancer cell lines was examd., along with the expression of .alpha.1-6FucT mRNA and the induction by treatment with several cytokines. Northern-blot anal. indicated high expression levels of .alpha.1-6FucT in brain and gastrointestinal-tract tissues of normal rats, as well as for a no. of lung-cancer, gastric-cancer and colon-cancer lines. Although various cytokines did not induce .alpha.1-6FucT mRNA, differentiation of a tumor cell enhanced the mRNA by 2- to 3-fold. These results may provide new insight into studies on .alpha.1-6FucT in terms of carcinogenesis or differentiation.

L5 ANSWER 8 OF 11 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1998:58067 BIOSIS
DOCUMENT NUMBER: PREV199800058067
TITLE: **Purification** and cDNA cloning of **porcine**

brain GDP-L-Fuc:N-acetyl-beta-D-glucosaminide:alpha1-6fucosyltransferase.

AUTHOR(S): Uozumi, N. (1); Yanagidani, S.; Miyoshi, E. (1); Ihara, Y. (1); Sakuma, T. (1); Kang, R. (1); Gao, C.-X. (1); Noda, K. (1); Teshima, T.; Fujii, S.; Shiba, T.; Taniguchi, N. (1)

CORPORATE SOURCE: (1) Dep. Biochem., Osaka Univ. Med. Sch., 2-2 Yamadaoka, Suita, Osaka 565 Japan

SOURCE: Glycoconjugate Journal, (1997) Vol. 14, No. 6, pp. 762. Meeting Info.: International Symposium on Glycosyltransferases and Cellular Communications Osaka, Japan March 26-28, 1997
ISSN: 0282-0080.

DOCUMENT TYPE: Conference

LANGUAGE: English

L5 ANSWER 9 OF 11 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 6

ACCESSION NUMBER: 1997:261195 CAPLUS

DOCUMENT NUMBER: 126:327408

TITLE: **Purification** and cDNA cloning of GDP-L-Fuc:N-acetyl-.beta.-D-glucosaminide:.**alpha.1-6** **fucosyltransferase** (.alpha.1-6 FucT) from human gastric cancer MKN45 cells

AUTHOR(S): Yanagidani, Shusaku; Uozumi, Naofumi; Ihara, Yoshito; Miyoshi, Eiji; Yamaguchi, Nozomi; Taniguchi, Naoyuki

CORPORATE SOURCE: Department of Biochemistry, Osaka University Medical School, Osaka, 565, Japan

SOURCE: Journal of Biochemistry (Tokyo) (1997), 121(3), 626-632
CODEN: JOBIAO; ISSN: 0021-924X

PUBLISHER: Japanese Biochemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB GDP-L-Fuc:N-acetyl-.beta.-D-glucosaminide:.**alpha.1-6** **fucosyltransferase** (.alpha.1-6 FucT), which catalyzes the transfer of fucose from GDP-Fuc to N-linked type complex glycopeptides, was **purified** from a culture supernatant of human gastric cancer cell line MKN45. The **purifn.** procedures included chromatogs. on Q-Sepharose Fast Flow, synthetic GDP-hexanolamine-Sepharose, and GnGn-bi-Asn-Sepharose columns. SDS-PAGE of the **purified** enzyme gave a major band corresponding to an apparent mol. mass of 60 kDa. The enzyme was recovered in a 12% final yield with an approx. 4,600-fold increase in specific activity. The pH optimum was 7.5, and the enzyme was fully active in the presence of 5 mM EDTA and did not require divalent cations, Mg2+ and Ca2+. Oligonucleotide primers designed from partial amino acid sequences were used to amplify and clone .alpha.1-6 FucT cDNA from a cDNA library of MKN45 cells. The cDNA encodes 575 amino acids in length, and contains the predicted N-terminal and internal amino acid sequences derived on lysyl endopeptidase digestion. The homol. to **porcine** brain .alpha.1-6 FucT is 92.2% at the nucleotide level and 95.7% at the amino acid level. No putative N-glycosylation sites were found in the predicted amino acid sequence of the human MKN45 cell enzyme or that of **porcine** brain. Thus, the enzyme is distinct from other fucosyltransferases which catalyze .alpha.1-2, .alpha.1-3, and .alpha.1-4 fucose addn.

L5 ANSWER 10 OF 11 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 1997:233962 BIOSIS

DOCUMENT NUMBER: PREV199799533165

TITLE: **Alpha-1-6** **Fucosyltransferase**: **Purification**, cDNA cloning and expression during hepatocarcinogenesis.

AUTHOR(S): Miyoshi, E.; Uozumi, N.; Noda, K.; Taniguchi, N.

CORPORATE SOURCE: Osaka Univ. Med. Sch., Osaka Japan

SOURCE: Proceedings of the American Association for Cancer Research Annual Meeting, (1997) Vol. 38, No. 0, pp. 561.
Meeting Info.: Eighty-eighth Annual Meeting of the American Association for Cancer Research San Diego, California, USA April 12-16, 1997
ISSN: 0197-016X.
DOCUMENT TYPE: Conference; Abstract
LANGUAGE: English

L5 ANSWER 11 OF 11 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1996:574476 BIOSIS
DOCUMENT NUMBER: PREV199799289157
TITLE: **Purification** and cDNA cloning of **porcine** brain GDP-L-Fuc:N-acetyl-beta-D-glucosaminide alpha-1 fwdarw 6fucosyltransferase.
AUTHOR(S): Uozumi, Naofumi; Yanagidani, Shusaku; Miyoshi, Eiji; Ihara, Yoshito; Sakuma, Takahiko; Gao, Cong-Xiao; Teshima, Tadashi; Fujii, Shigeru; Shiba, Tetsuo; Taniguchi, Naoyuki (1)
CORPORATE SOURCE: (1) Dep. Biochemistry, Osaka Univ., Med. Sch., 2-2 Yamadaoka, Suita, Osaka 565 Japan
SOURCE: Journal of Biological Chemistry, (1996) Vol. 271, No. 44, pp. 27810-27817.
ISSN: 0021-9258.
DOCUMENT TYPE: Article
LANGUAGE: English
AB GDP-L-Fuc:N-acetyl-beta-D-glucosaminide alpha-1 fwdarw 6fucosyl-transferase (alpha-1-6FucT; EC 2.4.1.68), which catalyzes the transfer of fucose from GDP-Fuc to N-linked type complex glycopeptides, was **purified** from a Triton X-100 extract of **porcine** brain microsomes. The **purification** procedures included sequential affinity chromatographies on GlcNAc-beta-1-2Man-alpha-1-6(GlcNAc-beta-1-2Man-alpha-1-2)Man-beta-1-4GlcNAc-beta-1-4GlcNAc-Asn-Sepharose 4B and synthetic GDP-hexanolamine-Sepharose 4B columns. The enzyme was recovered in a 12% final yield with a 440,000-fold increase in specific activity. SDS-polyacrylamide gel electrophoresis of the **purified** enzyme gave a major band corresponding to an apparent molecular mass of 58 kDa. The alpha-1-6FucT has 575 amino acids and no putative N-glycosylation sites. The cDNA was cloned in to pSVK3 and was then transiently transfected into COS-1 cells. alpha-1-6FucT activity was found to be high in the transfected cells, as compared with non- or mock-transfected cells. Northern blotting analyses of rat adult tissues showed that alpha-1-6FucT was highly expressed in brain. No sequence homology was found with other previously cloned fucosyltransferases, but the enzyme appears to be a type II transmembrane protein like the other glycosyltransferases.

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JPO Abstracts Database
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Derwent World Patents Index
IBM Technical Disclosure Bulletins

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L2	L1 same (pig or porc$n)	29	L2
L1	fucosyltransferase	424	L1

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L2: Entry 1 of 29 File: PGPB Nov 28, 2002

PGPUB-DOCUMENT-NUMBER: 20020177551
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020177551 A1

TITLE: Compositions and methods for treatment of neoplastic disease

PUBLICATION-DATE: November 28, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Terman, David S.	Pebble Beach	CA	US	

US-CL-CURRENT: 514/12; 435/325, 530/350

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw Desc | Image

2. Document ID: US 20020164749 A1

L2: Entry 2 of 29 File: PGPB Nov 7, 2002

PGPUB-DOCUMENT-NUMBER: 20020164749
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020164749 A1

TITLE: Alpha1,3-fucosyltransferase

PUBLICATION-DATE: November 7, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Taylor, Diane E.	Edmonton		CA	
Ge, Zhongming	Edmonton		CA	

US-CL-CURRENT: 435/193; 435/320.1, 435/325, 435/69.1, 435/84, 536/23.2, 536/53

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw Desc | Image

3. Document ID: US 20020133836 A1

L2: Entry 3 of 29 File: PGPB Sep 19, 2002

PGPUB-DOCUMENT-NUMBER: 20020133836
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020133836 A1

TITLE: Methods to identify swine genetically resistant to F18 E. coli associated diseases

PUBLICATION-DATE: September 19, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Bosworth, Brad T.	Littleton	NC	US	
Vogeli, Peter	Zurich		CH	

US-CL-CURRENT: 800/17; 435/193, 435/6

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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4. Document ID: US 20020129395 A1

L2: Entry 4 of 29 File: PGPB Sep 12, 2002

PGPUB-DOCUMENT-NUMBER: 20020129395
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020129395 A1

TITLE: Compositions to identify swine genetically resistant to F18 E. coli associated diseases

PUBLICATION-DATE: September 12, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Bosworth, Brad T.	Littleton	NC	US	
Vogeli, Peter	Zurich		CH	

US-CL-CURRENT: 800/17; 435/193, 435/6, 536/23.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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5. Document ID: US 20020081694 A1

L2: Entry 5 of 29 File: PGPB Jun 27, 2002

PGPUB-DOCUMENT-NUMBER: 20020081694
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020081694 A1

TITLE: Alpha 1-6 fucosyltransferase

PUBLICATION-DATE: June 27, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Taniguchi, Naoyuki	Toyonaka-shi		JP	
Uozumi, Naofumi	Kobe-shi		JP	
Shiba, Tetsuo	Toyonaka-shi		JP	
Yanagidani, Shusaku	Ohtsu-shi		JP	

US-CL-CURRENT: 435/193; 435/101, 435/320.1, 435/325, 435/69.1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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6. Document ID: US 20020068347 A1

L2: Entry 6 of 29 File: PGPB Jun 6, 2002

PGPUB-DOCUMENT-NUMBER: 20020068347
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020068347 A1

TITLE: Nucleic acids encoding alpha-1,3 fucosyltransferases and expression systems for making and expressing them

PUBLICATION-DATE: June 6, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Taylor, Diane E.	Edmonton		CA	
Ge, Zhongming	Edmonton		CA	

US-CL-CURRENT: 435/193; 435/325, 435/6, 435/69.1, 435/7.92, 530/389.1, 536/23.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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7. Document ID: US 20020037570 A1

L2: Entry 7 of 29 File: PGPB Mar 28, 2002

PGPUB-DOCUMENT-NUMBER: 20020037570
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020037570 A1

TITLE: Alpha 1,2-fucosyltransferase

PUBLICATION-DATE: March 28, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Taylor, Diane	Edmonton		CA	
Wang, Ge	Edmonton		CA	
Palcic, Monica	Edmonton		CA	

US-CL-CURRENT: 435/193; 536/23.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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8. Document ID: US 20020031494 A1

L2: Entry 8 of 29 File: PGPB Mar 14, 2002

PGPUB-DOCUMENT-NUMBER: 20020031494
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020031494 A1

TITLE: NUCLEIC ACIDS FOR REDUCING CARBOHYDRATE EPITOPES

PUBLICATION-DATE: March 14, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
SANDRIN, MAURO SERGIO	BRUNSWICK		AU	
MCKENZIE, IAN CAMPBELL FARQUHAR	BRUNSWICK		AU	

US-CL-CURRENT: 424/93.2; 424/93.21, 435/320.1, 435/325, 435/455, 514/44, 536/23.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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9. Document ID: US 20020028205 A1

L2: Entry 9 of 29 File: PGPB Mar 7, 2002

PGPUB-DOCUMENT-NUMBER: 20020028205
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020028205 A1

TITLE: ANTIGENIC FUSIONPROTEIN CARRYING GALALPHA 1,3GAL EPITOPES

PUBLICATION-DATE: March 7, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
HOLGERSSON, JAN	HUDDINGE		SE	
LIU, JINING	HUDDINGE		SE	

US-CL-CURRENT: 424/184.1; 424/178.1, 435/320.1, 530/350, 530/387.1, 530/391.1, 536/23.1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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10. Document ID: US 20020013957 A1

L2: Entry 10 of 29 File: PGPB Jan 31, 2002

PGPUB-DOCUMENT-NUMBER: 20020013957
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020013957 A1

TITLE: Method of cloning porcine animals

PUBLICATION-DATE: January 31, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Damiani, Philip	Spencer	MA	US	
Betthauser, Jeffrey M.	Windsor	WI	US	
Forsberg, Erik J.	Oregon	WI	US	
Bishop, Michael D.	Rio	WI	US	

US-CL-CURRENT: 800/24; 800/17

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments KWIC | Draw Desc | Image

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11. Document ID: US 20010055584 A1

L2: Entry 11 of 29 File: PGPB Dec 27, 2001

PGPUB-DOCUMENT-NUMBER: 20010055584
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20010055584 A1

TITLE: IMPROVED NUCLEIC ACIDS ENCODING A CHIMERIC GLYCOSYLTRANSFERASE

PUBLICATION-DATE: December 27, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
MCKENZIE, IAN FARQUHAR CAMPBELL	BRUNSWICK		AU	
SANDRIN, MAURO SERGIO	BRUNSWICK		AU	

US-CL-CURRENT: 424/93.2; 424/93.21, 435/320.1, 435/325, 435/455, 514/44, 536/23.1, 536/23.4

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments KWIC | Draw Desc | Image

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12. Document ID: US 6455037 B1

L2: Entry 12 of 29 File: USPT Sep 24, 2002

US-PAT-NO: 6455037
DOCUMENT-IDENTIFIER: US 6455037 B1

TITLE: Cells expressing an .alpha.gala nucleic acid and methods of xenotransplantation

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments KWIC | Draw Desc | Image

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13. Document ID: US 6444655 B1

L2: Entry 13 of 29 File: USPT Sep 3, 2002

US-PAT-NO: 6444655
DOCUMENT-IDENTIFIER: US 6444655 B1

TITLE: Galactopyranosides and their use

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments KWIC | Draw Desc | Image

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14. Document ID: US 6399758 B1

L2: Entry 14 of 29 File: USPT Jun 4, 2002

US-PAT-NO: 6399758
DOCUMENT-IDENTIFIER: US 6399758 B1

TITLE: Nucleic acids for reducing carbohydrate epitopes

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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15. Document ID: US 6399337 B1

L2: Entry 15 of 29 File: USPT Jun 4, 2002

US-PAT-NO: 6399337
DOCUMENT-IDENTIFIER: US 6399337 B1

TITLE: .alpha.1,3-fucosyltransferase

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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16. Document ID: US 6291219 B1

L2: Entry 16 of 29 File: USPT Sep 18, 2001

US-PAT-NO: 6291219
DOCUMENT-IDENTIFIER: US 6291219 B1

TITLE: .alpha.1-6 fucosyltransferase

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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17. Document ID: US 6238894 B1

L2: Entry 17 of 29 File: USPT May 29, 2001

US-PAT-NO: 6238894
DOCUMENT-IDENTIFIER: US 6238894 B1

TITLE: .alpha.1,2 fucosyltransferase

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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18. Document ID: US 6204431 B1

L2: Entry 18 of 29 File: USPT Mar 20, 2001

US-PAT-NO: 6204431
DOCUMENT-IDENTIFIER: US 6204431 B1

TITLE: Transgenic non-human mammals expressing heterologous glycosyltransferase DNA sequences produce oligosaccharides and glycoproteins in their milk

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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19. Document ID: US 6166288 A

L2: Entry 19 of 29 File: USPT Dec 26, 2000

US-PAT-NO: 6166288
DOCUMENT-IDENTIFIER: US 6166288 A

TITLE: Method of producing transgenic animals for xenotransplantation expressing both an enzyme masking or reducing the level of the gal epitope and a complement inhibitor

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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20. Document ID: US 6054304 A

L2: Entry 20 of 29 File: USPT Apr 25, 2000

US-PAT-NO: 6054304
DOCUMENT-IDENTIFIER: US 6054304 A

TITLE: .alpha.1-6 fucosyltransferase

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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21. Document ID: US 5892070 A

L2: Entry 21 of 29 File: USPT Apr 6, 1999

US-PAT-NO: 5892070
DOCUMENT-IDENTIFIER: US 5892070 A

TITLE: Transgenic non-human mammals producing oligosaccharides and glycoconjugates

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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22. Document ID: US 5891698 A

L2: Entry 22 of 29 File: USPT Apr 6, 1999

US-PAT-NO: 5891698
DOCUMENT-IDENTIFIER: US 5891698 A

TITLE: Oligosaccharides and glycoproteins produced in milk of transgenic non-human mammals

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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23. Document ID: US 5858752 A

L2: Entry 23 of 29 File: USPT Jan 12, 1999

US-PAT-NO: 5858752
DOCUMENT-IDENTIFIER: US 5858752 A

TITLE: Fucosyltransferase genes and uses thereof

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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24. Document ID: US 5830850 A

L2: Entry 24 of 29 File: USPT Nov 3, 1998

US-PAT-NO: 5830850
DOCUMENT-IDENTIFIER: US 5830850 A

TITLE: Methods for the treatment of bone resorption disorders, including osteoporosis

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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25. Document ID: US 5750176 A

L2: Entry 25 of 29 File: USPT May 12, 1998

US-PAT-NO: 5750176
DOCUMENT-IDENTIFIER: US 5750176 A

TITLE: Transgenic non-human mammal milk comprising 2'-fucosyl-lactose

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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26. Document ID: US 5700671 A

L2: Entry 26 of 29 File: USPT Dec 23, 1997

US-PAT-NO: 5700671
DOCUMENT-IDENTIFIER: US 5700671 A

TITLE: Methods of making transgenic animals producing oligosaccharides and glycoproteins

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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27. Document ID: WO 9853101 A2

L2: Entry 27 of 29 File: EPAB Nov 26, 1998

PUB-NO: WO009853101A2
DOCUMENT-IDENTIFIER: WO 9853101 A2
TITLE: METHODS AND COMPOSITION TO IDENTIFY SWINE GENETICALLY RESISTANT TO F18 E. COLI ASSOCIATED DISEASES

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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28. Document ID: US 6331658 B1

L2: Entry 28 of 29 File: DWPI Dec 18, 2001

DERWENT-ACC-NO: 2002-105278
DERWENT-WEEK: 200214

TITLE: Producing pig organs with decreased immunogenicity due to modulation of sialyltransferase or a fucosyltransferase expression, useful as a source of donor organs for transplant into humans

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | DWPC | Draw Desc | Image

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29. Document ID: WO 9727303 A1 US 20020081694 A1 JP 09201191 A EP 816503 A1 JP 10004959 A JP 10004969 A JP 10084975 A US 6054304 A US 6291219 B1

L2: Entry 29 of 29 File: DWPI Jul 31, 1997

DERWENT-ACC-NO: 1997-393690
DERWENT-WEEK: 200245

TITLE: Human or pig alpha 1-6 fucosyl:transferase and DNA encoding it - for synthesis and modification of sugar chains and used as an antigen for production of diagnostic antibodies

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | DWPC | Draw Desc | Clip Img | Image

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L1 same (pig or porc$n)	29

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